

SAFETY DATA SHEET



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BUTYLAMINE

SDS No. M0025

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Butylamine

Synonyms: 1-Aminobutane; 1-Butanamine; Butylamine; MNBA.

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

2. HAZARDS IDENTIFICATION



Classification:

Flammable Liquids: GHS Category 2

Acute Toxicity, Oral: GHS Category 4

Skin Corrosion: GHS Category 1B

Eye Damage: GHS Category 1

Label Elements

Signal Word: DANGER!

Hazard Statements:

- H225 – Highly flammable liquid and vapor.
- H290 – May be corrosive to metals.
- H302 – Harmful if swallowed.
- H312 – Harmful in contact with skin.
- H314 – Causes severe skin burns and eye damage.

Precautionary Statements:

- P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P310 – If SWALLOWED: Immediately call or POISON CENTER or a doctor/physician.
- P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

Emergency Overview

Corrosive. Causes burns to eyes and skin. Causes sever irritation to digestive and respiratory systems. Harmful swallowed,

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inhaled, or absorbed through the skin. Highly flammable liquid and vapor. Vapor may cause flash fire. Target Organs: Central nervous system

HMIS Rating:

Health – 3 Flammability – 3 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Butylamine	109-73-9	>99%	Yes

4. FIRST-AID MEASURES

Inhalation: If inhaled, remove to fresh air. If breathing is labored or with coughing, give oxygen. If not breathing, begin artificial respiration, but DO NOT give mouth-to-mouth resuscitation. Get medical attention.

Ingestion: If swallowed, get medical attention immediately; DO NOT induce vomiting. Give victim plenty of water. Never give anything by mouth to an unconscious person. If not breathing, begin artificial respiration.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing and shoes thoroughly before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flammability: Highly Flammable liquid and vapor (GHS Category 2)

Auto-ignition Temperature: 312° C (594° F)

Flash Point: -12° C (10° F)

Flammable Limits: Lower Limit – 1.7 vol %, Upper Limit – 9.8 vol %

Products of Combustion: May decompose into toxic products under fire conditions (nitrogen oxides, carbon monoxide, carbon dioxide).

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors may cause flash fire. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Specific Explosion Hazards: Sensitive to static discharge.

Fire Fighting Media: Water spray, dry chemical, alcohol foam, or carbon dioxide. Water spray may be used to keep fire exposed containers cool. Solid streams of water may be ineffective

National Fire Protective Association (Estimated): Health - 2, Flammability - 3, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Water can be used to create a non-flammable mixture. Provide ventilation to the affected area and remove all ignition sources. Approach the

spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep in a flammables area away from all sources of ignition and oxidizing materials. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from acids. Protect from moisture.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles and face shield for eye and face protection. Use appropriate protective gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits:

- ACGIH – 5 ppm Ceiling (skin)
- NIOSH – 5 ppm (15 mg/m³) Ceiling (skin); 300 ppm IDLH
- OSHA Final PEL – 5 ppm (15 mg/m³) Ceiling (skin)

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: Ammonia-like odor

Molecular Formula: CH₃(CH₂)₃NH₂

Molecular Weight: 73.14

Auto-ignition Temperature: 312° C (594° F)

Flash Point: -12° C (10° F)

Flammable Limits: Lower Limit – 1.7 vol %, Upper Limit – 9.8 vol %

pH: Not available.

Boiling Point: 78° C (172° F)

Freezing/Melting Point: -49° C (-56° F)

Decomposition Temperature: Not available.

Specific Gravity: 0.74 g/cm³

Vapor Density (Air=1): 2.5

Vapor Pressure: 82 mm Hg @ 20° C.

Viscosity: Not available.

Solubility: Miscible in water.

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, excess heat.

Incompatibility With Various Substances: Oxidizing agents, perchloryl fluoride and strong acids.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide, amines.

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: Vapors can irritate the nose and throat and may produce headache and pulmonary edema. Exposure to excessive vapor concentrations may cause nausea, vomiting, faintness, coughing, chest pains, dizziness, depression, convulsions, narcosis and possibly unconsciousness. Exposure of this nature is unlikely, however, because of the irritating properties of the vapor.

INGESTION HAZARD: Toxic. Ingestion is harmful and symptoms may parallel those from inhalation. Can also cause irritation to the mouth, throat and gastro-intestinal tract. Ingestion can be fatal.

SKIN CONTACT HAZARD: Contact may cause deep penetrating burns. Can be absorbed through the skin with symptoms paralleling those from inhalation.

EYE CONTACT HAZARD: Vapors irritate the eyes and splashes can cause burns, severe damage, and loss of vision.

Chronic Exposure Hazards: Prolonged or repeated skin exposure may cause dermatitis. Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance

Animal Toxicity:

Draize, rabbit, skin: 500 mg, severe

Oral, rat: LD50 = 366 mg/kg;

Skin, rabbit: LD50 = 500 mg/kg;

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: Investigated as a tumorigen.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: Investigated as a mutagen.

Neurotoxicity: No information available.

12. ECOLOGICAL INFORMATION

Environmental Toxicity: No information available.

Environmental Fate: When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material may evaporate to a moderate extent. When released into water, this material may biodegrade to a moderate extent. This material is not expected to significantly bioaccumulate. This material has an estimated bioconcentration factor (BCF) of less than 100. When released to water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material is expected to be readily removed from the atmosphere by wet deposition.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

US DOT, IATA, IMO

Proper Shipping Name: n-Butylamine

Hazard Class: 3(8)

UN Number: UN1125

Packing Group: II

Canada TDG

Additional Information: Flashpoint -12 C

15. REGULATORY INFORMATION

US Federal Regulations:

TSCA: CAS# 109-73-9 is listed on the TSCA Inventory.

Health and Safety Reporting List: CAS# 109-73-9 not listed.

Chemical Test Rules: CAS# 109-73-9 is not listed.

Section 12b: CAS# 109-73-9 is not listed.

TSCA Significant New Use Rule: CAS# 109-73-9 does not have an SNUR under TSCA.

CERCLA Hazardous Substances: CAS# 109-73-9 – 1000 lbs/454.5 kg final RQ

SARA Section 302: Does not have a TPQ

SARA Codes: CAS# 109-73-9 – acute, chronic, fire

Section 313: Butylamine (CAS# 109-73-9) is not subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

Clean Air Act: CAS# 109-73-9 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

Clean Water Act: CAS# 109-73-9 is listed as a Hazardous Substance. It is not a Priority Pollutant. It is not a Toxic Pollutant.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 109-73-9 is on the following state right-to-know lists: California, New Jersey, Pennsylvania, Minnesota, and Massachusetts

California Prop 65: California No Significant Risk Level: Not listed

Canada:

DSL/NDL: CAS# 109-73-9 is listed on Canada's DSL list.

WHMIS: This product has a WHMIS classification of B3. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

DSCL (EEC):

Hazard Symbols: F, C

Risk Phrases: R11 – Highly Flammable; R20/21/22 – Harmful by inhalation, in contact with skin, and if swallowed; R35 – Causes severe burns.

Safety Phrases: S3 – Keep in a cool place; S16 – Keep away from sources of ignition-no smoking; S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice; S29 – Do not empty into drains; S36/37/39: Wear suitable protective clothing, gloves, and eye/face protection; S45 – In case of accident, or if you feel unwell, seek medical advice immediately (show label where possible).

WGK (Water Danger/protection): CAS# 109-73-9: 1

16. OTHER INFORMATION

Originally Prepared: 6/18/2008

Last Revised: 12/1/2015 – Updated information for eye and face protection in Section 8.

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